

**CARGILL**  
**SALT DIVISION**

7220 Central Ave.  
Newark, CA 94560-4206  
510/797-1820 1-800-321-1458  
Fax: 510/790-8189

March 22, 1999

Mr. Keith Lichten  
CA Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Subject: Cargill Salt Maintenance Report  
Cargill Salt Files: 2000.005:0a and 2000.012:131

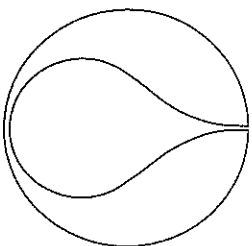
Dear Mr. Lichten:

I am transmitting the report for Cargill's proposed maintenance of our Solar Salt Operations for our fiscal year 1999-2000, which begins on June 1, 1999. This is Cargill's fifth report to the regulatory community and interested members of the public. This has been reviewed in a preliminary fashion by staff at both the Corps of Engineers and the Bay Conservation and Development Commission. Both agencies authorized the distribution of the report for agency and public comment. What is included in this submittal is (1) a tabular summary of our proposed activities, (2) the graphic display of the activities and (3) a narrative that supplements the first two documents. Your review and questions are encouraged. Please feel free to direct questions to the Cargill staff, either Bob Douglass (510-790-8156) or Barbara Ransom, our environmental manager (510-790-8182). Formal inquiries and written comments should be sent to both:

Mark D'Avignon, Regulatory Functions Branch  
U.S. Army Corps of Engineers  
San Francisco District  
333 Market Street, 8th Floor  
San Francisco, CA 94105-2197  
(415) 977-8446

and

John Webber, Coastal Program Analyst  
San Francisco Bay Conservation and Development Commission  
30 Van Ness Avenue, Suite 2011  
San Francisco, CA 94102-6080  
(415) 557-3686 or 557-8771



By way of introduction, "*El Niño 1997-98*" continues to influence our maintenance activities. As noted in previous reports, Cargill's facilities suffered extensive damage and we continue to be faced with large expenditures of time and capital to restore our infrastructure for continued solar salt production. In order to accelerate our dredging schedule and recover from the impact of the storms, we recently placed a fourth crewman on the *Mallard* and increased the operational hours per week for the dredge.

This report's initial focus is in the Baumberg system, where the dredge will have moved by the time the report is out for public review. We had originally planned for dredge work in the Redwood City and Plant 1 systems, but the permit conditions related to the presence of the California clapper rail prevented the use of three locks in those systems. This was the first real, significant disruption of planned activities we have experienced since the permits were issued. The dredge has completed a lengthy stay in the Alviso system and recently left the southern half Plant 1 system. Cargill has donated 500 hours of dredge time to the California Department of Fish and Game to assist with the restoration project of the former Baumberg salt plant. That work is noted in the text, but not scheduled, pending receipt of permits for the project.

After Baumberg, the *Mallard* will work in the Plant 1 pond system (northern half) where it will remain for at least the entire 1999-2000 maintenance year and beyond. The dredge is also programmed for work in Redwood City as well and will, with one exception noted in the report, remain North of the Dumbarton Bridge until the year 2001. The presence of the Western snowy plover was a factor in the scheduling/permit process and that issue is discussed in the narrative as well as other maintenance activities that will be of interest to agencies and the public.

Beyond that, all of the activities being reported are typical maintenance activities of the kind that have been reported in the previous three years of this permit; grading and discing of levees, renewal of rip-rap and replacement of various gates and small pipes.

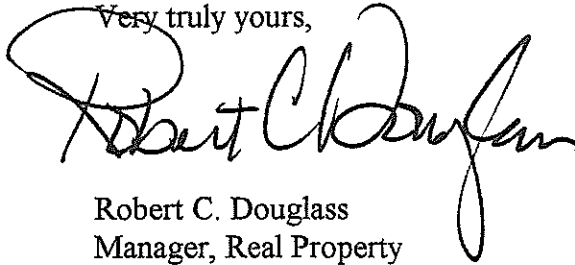
Comments will be reviewed and evaluated by the agency staff and resolved with Cargill Salt before the maintenance plan is approved. Comments are requested prior to April 16, 1999. As before, the report summarizing currently authorized activities will be sent to you in August of this year.

Enclosed is a postage-paid reply card to notify us if you do not wish to receive future mailings or if there is someone else in your organization who should be receiving these semi-annual reports.

March 22, 1999

Thank you for your interest in our operations.

Very truly yours,

A handwritten signature in black ink, appearing to read "Robert C. Douglass". The signature is fluid and cursive, with a large initial "R" and a long, sweeping underline.

Robert C. Douglass  
Manager, Real Property

RCD:djm

Enclosures

cc: Mark D'Avignon, U.S. Army Corps of Engineers  
John Webber, BCDC



## SUPPORTING TEXT

### 1999-2000 CARGILL SALT SOLAR SALT MAINTENANCE WORK PLAN

March 22, 1999

- 1. DREDGE WORK** The dredge "*Mallard*" will begin the maintenance year in the Baumberg system where the dredge recently entered via the lock at Pond 2. Originally, the dredge was scheduled to enter the Redwood City Plant system, but potential conflicts with the presence of the California clapper rail eliminated that option. Precise, calendar specific scheduling is also problematic due to the presence of the Western snowy plover in the Plant 1 system, but we are listing work in that system, assuming we will be able to work around the plover populations and find areas where the plover will not be impacted.

Mitigation Site Levee While in the Baumberg system, the dredge will add dredged muds to the mitigation levee in conjunction with land based equipment that will have already topped the levee (noticed in last year's report and underway at this time). This will provide material for future levee maintenance by land based equipment.

Reinforcement for Dredge Lock at Pond 2 Upon exit from the Baumberg system, the dredge will place sheet piling on the outboard edge of the lock at Pond 2. With the opening to full tidal action of the 49 acre marsh restoration site in Pond 1, Baumberg, we expect to see erosive velocities in the channel leading up to the lock. That has occurred already with the limited tidal exchange. The photograph illustrates where the protective sheet piling will be installed:



This technique has been used successfully in the past and reported in prior maintenance completion reports. In the past, we have used the sheet piling to temporarily protect and stabilize lock access cuts and levee cuts. This application will be permanent to protect the function of the lock.

Snowy Plover Beach One of the key aspects of Cargill's permit was the requirement to construct additional snowy plover habitat in the solar salt operational area. That requirement was obviously contingent upon the dredge being in a system that provides snowy plover habitat, such as the Plant 1 system. This year's maintenance evolution brings us to that point. Cargill's dredge will construct 5000 linear feet of snowy plover beach at the 3A levee during the planned maintenance cycle of the pond system scheduled for the Fall/Winter of 1999/2000. Cargill will maintain this beach during the future maintenance cycles for this pond system. Cargill will also visually inspect this beach on an annual basis to assess the suitability for snowy plovers. Two photo bench stations will be established. These photos and the results of the visual inspection will be submitted in the annual report in the year after the construction. If the results these observation show vegetation establishment on the beach that would eliminate potential snowy plover use of the beach, Cargill will take steps to remove the vegetation, as practicable, or establish alternative beaches at other locations. If alternative beaches are established, they will be of similar length as the vegetated, unusable portion of the constructed beach at the 3A levee.

New Gaps in Levees As part of Cargill's continuing efforts for system improvements, the dredge will cut 25 foot gaps in a number of levees in the Plant 1 system. These are noted on the graphics, but are the levees between Ponds 3A and 4A, 8 and 9, 6 and 7 and finally 4 and 5. The purpose of these gaps, which will have the effect of creating a number of new islands in the Plant 1 system, will be to increase the flow of brines South, towards the Newark Plant.

Dry Dock for Dredge With the increased staffing and operational tempo for the dredge, regularly scheduled maintenance will occur more frequently and we have budgeted a four week "dry dock" period at Cargill's Redwood City shipping pier. The decision as to when to undertake that maintenance work will be driven primarily by seasonal nesting and habitat issues.

Levee Maintenance Pond A5, Alviso Cargill and the Santa Clara Valley Water District have an agreement covering levee maintenance for levees along Guadalupe Slough. A segment of the levee protecting Pond A5 has historically been susceptible to erosive forces and is scheduled for maintenance by the SCVWD. Cargill's dredge will undertake that maintenance from the slough side, avoiding the need for a dredge entry in the Alviso system.



North Creek Baumberg Restoration Project As part of the purchase agreement for the Baumberg Tract, Cargill agreed to donate 50 days of dredge time to assist in the creation of a new tidal access for the Department of Fish and Game's restoration project. That work is not listed in the schedule, but shown graphically. The scheduling is dependent upon the necessary approvals for the DFG restoration project and, at the request of the Department of Fish and Game, the proposed work is being noted in the event it can be coordinated with this year's dredge activities.

2. **PREVENTATIVE MAINTENANCE - RIP-RAP** The work proposed is all maintenance. No new rip-rap is proposed for this maintenance year but the quantities reflect the repair of storm damage. The actual timing of the work will be coordinated as closely as possible with the Refuge staff and potential impacts to the Snowy Plover and other sensitive species evaluated on a case-by-case basis.

3. **PREVENTATIVE MAINTENANCE - GRADING OF LEVEE TOPS**

This work is typical of previous years and will be coordinated primarily with the refuge.

4. **OTHER WORK**

Mitigation Site Levee Last year we reported anticipated work on the mitigation site levee in Pond 1, Baumberg. That work will most likely be completed or at least underway by June 1, 1999. We expect the dredge will supplement the efforts of the land based equipment by depositing more muds on the levee top to facilitate future maintenance.

New Intake for Redwood City, Pond 1 In order to facilitate future brine movements in the Redwood City system, a new intake will be constructed to introduce bay waters into that pond. This will allow the management of high salinities in the system.

New Pump and Platform and Channel for Pond SF2 Similarly, a new pump platform will be constructed at the eastern end of Pond SF2 and a new channel dredged between the new platform and the existing platform. This will facilitate brine movements as well.

Footbridge Between Ponds A16 and A17, Alviso With the improved dredge access project completed last year in Alviso, visitor access was impaired and a footbridge is proposed for installation in this year's activities. The construction and installation details will be coordinated with the Refuge staff.





**Cargill Salt Workplan 1999 - 2000**  
**San Francisco District Corps of Engineers Permit 19009E98**  
**San Francisco Bay Conservation and Development Commission Permit 4-93**

**- Redwood City -**

| Location     | Ponds Involved                      | Activity <sup>1</sup>   | Duration of Activity  | COE <sup>2</sup> | BCDC <sup>2</sup> | Size/Scope         | Comments   |
|--------------|-------------------------------------|-------------------------|---|------------------|-------------------|--------------------|--|
| REDWOOD CITY | 1-10, 7A, 7B, 7C, 8E, 8W, 9A, & SF2 | Grading                 | Ongoing<br>May through August                                   | N/A              | 2b                |                    | Routine grading of levee top to provide vehicle access. Where present, grading will not occur in active WSP/seabird nesting areas. |
|              | 1                                   | Discing                 | Ongoing<br>May - August   | N/A              | 2b                |                    | Discing dredged muds placed on levee top.  |
|              | 1                                   | Rip-rap                 | Ongoing through August  | 1e               | 1c                | 2,270 lf, 1,300 cy | Maintenance of existing rip-rap areas.   |
|              | 1                                   | Levee topping "Mallard" | Sep 2000 through Jan 2001<br>(Depending on bird survey results) | 2a               | 2a                | 6,800 lf           | Top levee using slough muds from Ravenswood Slough, 1,800 lf and spot top bay shore levee 5,000 lf outside of salt pond.           |
|              | 1                                   | Other work              | Ongoing Sep 2000 through Jan 2001                               |                  |                   |                    | Install up to four 48" intake pipes and trash racks. (System improvements) with Dredge "Mallard" from "inside pond".               |
|              | 3                                   | Other work              | Ongoing   | 1a               | 2b                |                    | Repair or replace 36" gate at Ravenswood Siphon.   |

<sup>1</sup>All routine grading of levee top to provide discing and rip-rapping are routine, preventive maintenance activities unless otherwise identified.

<sup>2</sup>Many activities identified in the work plan are outside COE/BCDC authority/jurisdiction. These are identified in the workplan for completeness and information only. Where there is tentative agreement between COE/BCDC and Cargill that these activities are outside the jurisdiction area, these areas are marked "N/A". The Corps and BCDC will make the final determination.

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|--------------|----------------|---------------------------|---|------------------|-------------------|------------|---|
| REDWOOD CITY | 3              | Levee topping "Mallard"   | Sep 2000 through Jan 2001<br>(depending on bird survey results) | 2a               | 2a                | 14,800 lf  | Top with dredged muds, majority of system.  |
|              | 4              | Levee topping "Mallard"   | Sep 2000 through Jan 2001<br>(depending on bird survey results) | 2a               | 2a                | 9,400 lf   | Top with dredged muds, majority of system.  |
|              | 5              | Levee topping "Mallard"   | Sep 2000 through Jan 2001<br>(depending on bird survey results) | 2a               | 2a                | 3,400 lf   | Top with dredged muds, majority of system.  |
|              | 7A             | General levee maintenance | Ongoing   |                  |                   | 1,300 lf   | Build up low areas as needed on cross levee (7A&7C), (7A&7B) with land-based equipment. |
|              | 7A             | General levee maintenance | Ongoing   | 2a               | 2a                | 3,000 lf   | Build up low areas as needed on cross levee 7A-8W with land-based equipment.            |
|              | 7B             | General levee maintenance | Ongoing   |                  |                   | 1,000 lf   | Build up low areas as needed on cross levee 7B - 7C with land-based equipment.          |

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|--------------|----------------|---------------------------|---|------------------|-------------------|------------|---|
| REDWOOD CITY | 7C             | Other work                | Ongoing to May  | 1a               | 2b                |            | Replace pipe and screw gate from pumping donut at 7C brine feed ditch for 7B. |
|              | 8E             | General levee maintenance |   |                  |                   | 4,000 lf   | Build up levee berm with land-based equipment.                                |
|              | 9A             | General levee maintenance | Ongoing   | N/A              | 2a                | 300 lf     | Spot key levee as needed.   |
|              | 10             | General levee maintenance | Ongoing   | 2a               | 2a                | 150 lf     | Spot key levee as needed.   |
|              | 10             | Discing                   | Ongoing<br>May - August   | N/A              | 2b                |            | Discing dredged muds placed on levee top.                                     |
|              | S5             | Levee topping "Mallard"   | Sep 2000 through Jan 2001<br>(depending on bird survey results) | 2a               | 2a                | 4,000 lf   | Top with dredged muds, majority of system.                                    |
|              | SF2            | Discing                   | Ongoing May - August  |                  |                   |            | Discing dredged muds placed on levee top.                                     |

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|--------------|--------------------|-----------------------|------------------------|------------------|-------------------|----------------|--|
| REDWOOD CITY | SF2                | Other work            | Ongoing                |                  |                   | 800 lf         | Dredge borrow ditch with land-based equipment from portable barge or from levee. (System improvements) for high rainfall years.                  |
|              | SF2                | Other work            | Ongoing                |                  |                   |                | Construct pump platform at discharge end of trans-bay pipeline and underground electrical supply. (System improvements) for high rainfall years. |
|              | SF2                | Other work            | Ongoing to May         | 1a               | 2b                |                | Replace 36" gate (SF2 to 2)  |
|              | SF2 (inside levee) | Rip-rap               | Ongoing through August | 1e               | 2a                | 100 lf, 120 cy | Maintenance of existing rip-rap areas.   |
|              | Shipping pier      | Maintenance           | Ongoing                | 1a               | 1d                |                | Repair various pilings, dolphins, walkways as needed.  |
|              | Pump pier          | Maintenance           | Ongoing                | 1e               | 2a                |                | Place rip-rap to prevent erosion.  |

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